

# Memorandum

**To:** Water District 34 2004 File/NOV Files  
**From:** Tim Luke  
**Date:** July 8, 2004  
**Re:** Field Visit and Review of Headgate and Measuring Devices

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On June 24, 2004 I visited several diversions on Warm Spring Creek and Parsons Creek to check compliance with previously issued NOV's, consent orders and compliance letters. Several additional diversions were checked for flow measurement since many diversions and rights above Mackay Reservoir were shut off or regulated as a result of the Big Lost River being connected both above and below the reservoir. The following is a summary of my visit and inspections:

- 1) Upper Fish Hatchery Canal, Warm Springs Creek (13124160)
  - Ditch was shut off except for some minor leakage through headgate.
- 2) Freeman 4 Ditch (13124165)
  - Headgate was open and water flowing down ditch. Measured 0.81 ft head on 1.5 ft. length cipolletti weir, or about 3.7 cfs on weir (note: this head and flow is high for this size weir). There was no re-diversion of this water to downstream pump. Water was returning to Warm Spring Creek below re-diversion pump. A chain and lock was on the headgate at head of ditch but not being used. Suggest that watermaster lock this gate when rights on ditch are off or regulated. The measured ditch flow is over 1 cfs in excess of authorized water right diversion rate. The question of excess flow and locking the headgate should be addressed with the watermaster.
- 3) Stoecklein 1 Ditch (13124173): Diversion shut off/no flow in ditch.
- 4) Stoecklein 2 Ditch (13124175):
  - Weir in ditch just above road crossing has been re-installed. Weir is 2 ft. rectangular wier. Good level weir blade/crest, but no sharp side edges (wood frame only). Some leakage on both sides of weir. Weir generally appears improved over former weir, at least at the observed flow. Measured flow at 1.92 cfs.
- 5) 6X Ranch 6 Ditch (13124100): Headgate closed/no flow in ditch
- 6) Stoecklein 4 Diversion and Ditches (13124180):
  - New headgate installed on north ditch or north side of creek. No diversion of water. Ditch somewhat filled in above headgate
  - New weir installed in ditch on south ditch/south side of creek. Weir is standard rectangular weir with 1.35 ft. width or weir crest. Installation looks acceptable. Headgate is slide gate

with 4 to 5 holes drilled on side for locking. The gate can be locked shut with a single padlock.

7) Shoupe Ditch (13124195)

- Diversion on. Measured 3.18 cfs on 4 ft rectangular weir.

8) Zollinger 2 Ditch from Parsons Creek above Donahue Bridge (13122990)

- Owners modified wooden timber structure from last year so that check boards can be installed vertically in box. Check boards were installed to the top of the box at time of visit in order to completely shut flow off to ditch below the box, but there was some significant leakage through the boards. Estimate leakage up to 0.5 cfs (about 25 inches). Owners drilled a hole on both sides of box and at top of stop log grooves.
- Observed that one of the installed check boards had a level steel plate or weir blade attached to top to provide weir measurement. Watermaster said this is used as both top check board and for weir measurement. Depending on flow approach to box and flow over weir board/plate, this is probably acceptable for measurement purposes, and can be used as a suppressed rectangular weir.
- Observed a round metal bar on the ground on other side of ditch and box that can be inserted through holes at top of stop log grooves and locked so that boards cannot be removed. Could not examine bar or determine how bar is locked but I believe or assume there are holes drilled at ends for installation of locks. At time of visit, boards could not be locked because boards were installed to top and bar could not be inserted through holes.
- Recommend inspection of this ditch and structure again when water is being diverted to check functionality and accuracy of weir, as well as ability to lock the check boards in place when necessary. Users should be notified of concern about inability to lock device at certain times and to control leakage.

9) Donahue Bridge on Parsons Creek: observed gage height = 1.76 ft.



Weir at Stoecklein 2 Diversion. 2 ft. Rectangular Weir



Stoecklein 4 Diversion, ditch on north side of creek to pond: New Headgate with culvert.





Stoecklein 4 Diversion: Headgate and ditch on south side of creek. Slide gate has holes for lock. Gate can be fully closed and locked.



Stoecklein 4 Diversion, ditch on south side of creek with 1.35 ft rectangular weir (view looking down ditch/upstream of weir)





Stoecklein 4 diversion south ditch weir, view from downstream of weir/looking up ditch.



Zollinger 2 Diversion: boards installed in structure for both control and measurement.





Zollinger 2 Diversion: boards in structure to shut off flow. Arrows show location of holes where bar can be inserted for locking. At this stage or water level, bar cannot be inserted because board is inserted in the top of the structure to prevent flow down ditch. See bar on ground on other side of structure.





Zollinger 2 Diversion: Close-up view of structure. See holes and bar for locking. Top board prevents insertion of bar. Note significant leakage through boards. One of the boards has a weir an installed metal weir blade for improved measurement.